

AMENDMENTS TO THE CLAIMS

1. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer,
5 comprising at least the steps of:
forming an LED stack over a first substrate;
forming a first reaction layer over said LED stack;
forming a reflective layer over a second substrate;
forming a second reaction layer over said reflective layer;
10 and
holding together said first reaction layer and said second reaction layer by means of a transparent adhesive layer.
2. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer
15 according to claim 1, wherein said reflective layer is a reflective metal layer.
3. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer
20 according to claim 2, wherein said reflective metal layer comprises at least a material selected from the group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, AuZn, and the like.
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4. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer
according to claim 1, wherein said reflective layer is a reflective oxide layer.
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5. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer

according to claim 4, wherein said reflective oxide layer comprises at least a material selected from the group consisting of SiNx, SiO₂, Al₂O₃, TiO₂, MgO, and the like.

5 6. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein said transparent adhesive layer comprises at least a material selected from the group consisting of polyimide (PI), benzocyclobutene (BCB),
10 perfluorocyclobutane (PFCB), and the like.

7. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein said first reaction layer or
15 said second reaction layer comprises at least a material selected from the group consisting of SiNx, Ti, Cr, and the like.

8. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein forming a reflective layer over a second substrate comprises the steps of forming a semiconductor stack over said second substrate and forming a reflective layer over said semiconductor stack.
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25 9. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, further comprising the step of removing said first substrate.

30 10. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer,

comprising at least the steps of:

forming an LED stack over a first substrate;

forming a first reaction layer over said LED stack;

forming a second reaction layer over a reflective metal
5 substrate; and

holding together said first reaction layer and said second
reaction layer by means of a transparent adhesive layer.

11. (withdrawn): A method for manufacturing a light emitting
10 diode having an adhesive layer and a reflective layer
according to claim 10, wherein said reflective metal
substrate comprises at least a material selected from the
group consisting of Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge,
Cu, AuBe, AuGe, Ni, PbSn, AuZn, and the like.

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12. (withdrawn): A method for manufacturing a light emitting
diode having an adhesive layer and a reflective layer
according to claim 10, wherein said transparent adhesive
layer comprises at least a material selected from the group
20 consisting of polyimide (PI), benzocyclobutene (BCB),
perfluorocyclobutane (PFCB), and the like.

13. (withdrawn): A method for manufacturing a light emitting
diode having an adhesive layer and a reflective layer
25 according to claim 10, wherein said first reaction layer
or said second reaction layer comprises at least a material
selected from the group consisting of SiNx, Ti, Cr, and the
like.

30 14. (withdrawn): A method for manufacturing a light emitting
diode having an adhesive layer and a reflective layer
according to claim 10, wherein the step of forming a second

reaction layer over a reflective metal substrate comprises the steps of forming a reflective layer over said reflective metal substrate and forming a second reaction layer over said reflective layer.

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15. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 10, further comprising the step of removing said first substrate.

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16. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer, comprising at least the steps of:

forming an LED stack over a first substrate;

15 forming a reflective layer over said LED stack;

forming a first reaction layer over said reflective layer;

forming a second reaction layer over a second substrate;

and

20 holding together said first reaction layer and said second reaction layer by means of an adhesive layer.

17. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, wherein said reflective layer is a
25 reflective metal layer.

18. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, wherein said reflective layer is a
30 reflective oxide layer.

19. (withdrawn): A method for manufacturing a light emitting

diode having an adhesive layer and a reflective layer according to claim 17, wherein said reflective metal layer comprises at least a material selected from the group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, 5 Cu, AuBe, AuGe, Ni, PbSn, AuZn, and the like.

20. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 18, wherein said reflective oxide layer 10 comprises at least a material selected from the group consisting of SiNx, SiO₂, Al₂O₃, TiO₂, MgO, and the like.

21. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, wherein said first reaction layer 15 or said second reaction layer comprises at least a material selected from the group consisting of SiNx, Ti, Cr, and the like.

20 22. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, further comprising the step of removing said first substrate.

25 23. (currently amended): A light emitting diode having an adhesive layer and a reflective layer, comprising at least:
a substrate;
a reflective layer formed over the substrate;
a first reaction layer formed over said reflective layer;
30 a transparent adhesive layer formed over said first reaction layer;
a second reaction layer formed over said transparent

adhesive layer;

and an LED stack formed over said second reaction

layer[[]];

5 wherein at least one reaction layer is formed to enhance
 an adhesion provided by the transparent adhesive layer.

24. (original): A light emitting diode having an adhesive layer
and a reflective layer according to claim 23, further
comprising a transparent conductive layer between said
10 second reaction layer and said LED stack.

25. (original): A light emitting diode having an adhesive layer
and a reflective layer according to claim 23, wherein said
reflective layer is a reflective metal layer.
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26. (withdrawn): A light emitting diode having an adhesive layer
and a reflective layer according to claim 23, wherein said
reflective layer is a reflective oxide layer.

20 27. (previously presented): A light emitting diode having an
adhesive layer and a reflective layer according to claim
25, wherein said reflective metal layer comprises at least
a material selected from the group consisting of In, Sn,
Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn,
25 and AuZn.

28. (withdrawn): A light emitting diode having an adhesive layer
and a reflective layer according to claim 26, wherein said
reflective oxide layer comprises at least a material
30 selected from the group consisting of SiNx, SiO₂, Al₂O₃,
TiO₂, and MgO.

29. (previously presented): A light emitting diode having an adhesive layer and a reflective layer according to claim 23, wherein said transparent adhesive layer comprises at least a material selected from the group consisting of polyimide (PI), benzocyclobutene (BCB), and perfluorocyclobutane (PFCB).
30. (previously presented): A light emitting diode having an adhesive layer and a reflective layer according to claim 23, wherein said first reaction layer or said second reaction layer comprises at least a material selected from the group consisting of SiNx, Ti, and Cr.
31. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer, comprising at least:
a substrate;
a first reaction layer formed over the substrate;
an adhesive layer formed over said first reaction layer;
a second reaction layer formed over said adhesive layer;
a reflective layer formed over said second reaction layer;
and
an LED stack formed over said reflective layer.
32. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, further comprising a transparent conductive layer between said reflective layer and said LED stack.
33. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, wherein said reflective layer is a reflective metal layer.

34. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, wherein said reflective layer is a reflective oxide layer.
- 5 35. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 33, wherein said reflective metal layer comprises at least a material selected from the group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, AuZn, and
10 the like.
36. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 34, wherein said reflective oxide layer comprises at least a material
15 selected from the group consisting of SiNx, SiO₂, Al₂O₃, TiO₂, MgO, and the like.
37. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, wherein said
20 transparent adhesive layer comprises at least a material selected from the group consisting of polyimide (PI), benzocyclobutene (BCB), perfluorocyclobutane (PFCB), and the like.
- 25 38. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, wherein said first reaction layer or said second reaction layer comprises at least a material selected from the group consisting of SiNx, Ti, Cr, and the like.
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39. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer, comprising at least:

- a reflective metal substrate;
a first reaction layer formed over the reflective metal substrate;
a transparent adhesive layer formed over said first reaction layer;
5 a second reaction layer formed over said transparent adhesive layer;
and an LED stack formed over said second reaction layer.
- 10 40. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, further comprising a transparent conductive layer between said second reaction layer and said LED stack.
- 15 41. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, wherein said reflective metal substrate comprises at least a material selected from the group consisting of Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, and AuZn.
- 20 42. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, wherein said transparent adhesive layer comprises at least a material selected from the group consisting of polyimide (PI),
- 25 benzocyclobutene (BCB), and perfluorocyclobutane (PFCB).
43. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, wherein said first reaction layer or said second reaction layer comprises
- 30 at least a material selected from the group consisting of SiNx, Ti, and Cr.

44. (currently amended): A light emitting diode having an adhesive layer and a reflective layer, comprising at least:
- a reflective means;
 - a first reaction layer formed over said reflective means;
 - 5 a transparent adhesive layer formed over said first reaction layer;
 - a second reaction layer formed over said transparent adhesive layer; and
 - an LED stack formed over said second reaction layer[.];
- 10 wherein at least one reaction layer is formed to enhance an adhesion provided by the transparent adhesive layer.